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10/027,257	12/20/2001	Tomofumi Watanabe	10449-041001	8985

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EXAMINER	
HUBER, PAUL W	

ART UNIT	PAPER NUMBER
2653	

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/027,257	WATANABE ET AL.	
	Examiner	Art Unit	
	Paul Huber	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,10-12,17 and 21* is/are rejected.

7)☒ Claim(s) *2-5,7-9,13-16 and 18-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et al. (USP-5,182,741).

Regarding claim 1, Maeda et al. discloses, with reference to figures 12-14, a data recording device for recording data on an optical disc 1 by irradiating a laser pulse on the optical disc 1 while controlling rotation of the optical disc 1 at a constant angular velocity (CAV). A laser condition varying unit (12, 13, 33) changes a peak value of the laser pulse in accordance with a value relating to a linear velocity of the optical disc 1 at a position at which the laser pulse is irradiated. See col. 10, line 55, through col. 11, line 8.

Regarding claim 12, Maeda et al. discloses, with reference to figures 12-14, a data recording control device for controlling recording of data on an optical disc 1 while controlling rotation of the optical disc 1 at a constant angular velocity (CAV), wherein data is recorded by irradiating a laser pulse on the optical disc. A spiral pregroove for recording disc information is formed on the optical disc 1. See col. 6, lines 25-38 and figure 2. A detection circuit (11, 12) reproduces the disc information of the pregroove and detects a value relating to a linear velocity of the optical disc at a position at which the laser pulse is irradiated in accordance with the reproduced disc information. See col. 7, line 33, through col. 8, line 14. A strategy specifying circuit 33 connected to the detection circuit (11, 12) specifies a peak value of the laser pulse in accordance with the detected value. See col. 10, line 55, through col. 11, line 8. See also, disclosure in reference to figure 14. A laser drive circuit 33 connected to the strategy specifying circuit (e.g., figure 14) alters the peak value of the laser pulse to the specified peak value.

Further regarding the claims, Maeda et al. discloses that "digital information entered through the input terminal 7 is synchronized to a clock from a clock generating circuit 13... [A] frequency of the clock supplied from the clock generating circuit 13 becomes higher as the relevant position gets closer to the circumferential section of the magneto-optical disk 1, and therefore a frequency for recording becomes higher in a position closer to the circumferential section of the magneto-optical disk 1" (col. 7, lines 15-26). See also, abstract. Therefore, a laser condition varying unit further alters at least one of a pulse timing and a pulse width of the laser pulse based on the clock as claimed.

Claims 6 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshimaru (USP-4,984,227).

Regarding claim 6, Yoshimaru discloses a data recording device, in reference to figure 1, for recording data on an optical disc 1 by irradiating a laser pulse on the optical disc 1 while controlling rotation of the optical disc at a constant angular velocity (CAV). A clock generating circuit 23 generates a clock, (e.g., 20 MHz/189), using a value relating to a linear velocity of the optical disk at a position at which the laser pulse is irradiated. A laser condition varying unit 15, 20 alters at least one of the pulse timing and a pulse width of the laser pulse based on the clock. See col. 3, line 52, through col. 5, line 22.

Regarding claim 11, Yoshimaru discloses a data recording device, in reference to figure 1, for recording data on an optical disc 1 by irradiating a laser pulse on the optical disc while controlling rotation of the optical disc 1 at a constant angular velocity. A clock generating circuit 23 generates a clock, (e.g., 20 MHz/189), using a value relating to a linear velocity of the optical disk at a position at which the laser pulse is irradiated. A storage device 16 stores a specifying value specifying at least one of a pulse timing and a pulse width of the laser pulse, wherein the specifying value is set in accordance with a linear velocity of the optical disc at a position at which the laser pulse is irradiated. A control unit 15 reads the specifying value stored in the storage device 16 and sequence controlling at least one of the pulse timing and the pulse width of the laser pulse based on the read specifying value.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6, 10, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al., as applied to the claims above, in further view of Yoshimaru (USP-4,984,227).

Regarding claims 6 & 10, Maeda et al. discloses, with reference to figures 12-14, a data recording device for recording data on an optical disc 1 by irradiating a laser pulse on the optical disc 1 while controlling rotation of the

optical disc 1 at a constant angular velocity (CAV). A laser condition varying unit (12, 13, 33) changes a peak value of the laser pulse in accordance with a value relating to a linear velocity of the optical disc 1 at a position at which the laser pulse is irradiated. See col. 10, line 55, through col. 11, line 8. Maeda et al. further discloses that the laser condition varying unit (12, 13, 33) generates a clock (clock generating circuit 13) using a value relating to a linear velocity of the optical disc 1 at a position at which the laser pulse is irradiated and for altering at least one of a pulse timing and a pulse width of a recording pulse based on the clock. See col. 11, lines 22-36.

Regarding claims 17 & 21, Maeda et al. discloses, with reference to figures 12-14, a data recording control device for controlling recording of data on an optical disc 1 while controlling rotation of the optical disc 1 at a constant angular velocity (CAV), wherein data is recorded by irradiating a laser pulse on the optical disc. A spiral pregroove for recording disc information is formed on the optical disc 1. See col. 6, lines 25-38 and figure 2. A detection circuit (11, 12) reproduces the disc information of the pregroove and detects a value relating to a linear velocity of the optical disc at a position at which the laser pulse is irradiated in accordance with the reproduced disc information. See col. 7, line 33, through col. 8, line 14. A clock generating circuit 13 connected to the detection circuit (11, 12) generates a clock using a value relating to the linear velocity of the optical disc 1 at the position at which the laser pulse is irradiated in accordance with the detected value. A strategy specifying circuit (33; 13, see for example figures 7 or 8) connected to the detection circuit (11, 12) specifies a peak value of the laser pulse in accordance with the detected value. See col. 10, line 55, through col. 11, line 8. See also, disclosure in reference to figure 14. A laser drive circuit 33 connected to the strategy specifying circuit (e.g., figure 14) alters the peak value of the laser pulse to the specified peak value. The strategy specifying circuit connected to the detection circuit (11, 12) further specifies at least one of a pulse width and a pulse timing of the laser pulse in accordance with the detected value. See also, col. 11, lines 22-36. A magnetic coil drive circuit 8 connected to the strategy specifying circuit alters the at least one of the pulse width and the pulse timing of the laser pulse to the specified at least one of the pulse timing and the pulse width of the laser pulse based on the clock.

Maeda et al. discloses the invention as claimed, but fails to specifically teach that a laser drive circuit is connected to the laser condition varying circuit or the strategy specifying circuit for altering the at least one of the pulse width and the pulse timing of the laser pulse to the specified at least one of the pulse timing and the pulse width of the laser pulse based on the clock. Rather, as illustrated with reference to figure 12, the pulse width of the recording data is altered by controlling the magnetic coil drive circuit 8 and not the laser drive circuit of the optical head 5. However, Maeda et al. further teaches that in the "embodiments, the descriptions are given with respect to the magneto-optical disk 1 as an optical disk; however, besides such application, the present invention is applicable

to optical disks of re-writable type such as those of so-called phase-change type or to those of DRAW type capable of recording only once" (col. 11, lines 51-57), which systems do not include a magnetic coil driver for recording data. In addition, Yoshimaru discloses an optical recording device (see figure 1) which alters a recording timing of the laser pulse according to a detected recording position of the laser beam on the optical disc, in the same field of endeavor, for the purpose of recording the data at a constant linear density while the optical disc is rotated at a constant angular velocity.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Maeda et al. such that the laser drive circuit, and not the magnetic coil drive circuit, is connected to the laser condition varying circuit or the strategy specifying circuit for altering the at least one of the pulse width and the pulse timing of the laser pulse to the specified at least one of the pulse timing and the pulse width of the laser pulse based on the clock, as claimed and as taught by Yoshimaru. A practitioner in the art would have been motivated to do this for the purpose of applying the taught advantages of the Maeda et al. invention to the systems of recording optical disks of re-writable type such as those of so-called phase-change type or to those of DRAW type capable of recording only once, as suggested by Maeda et al., which systems do not include a magnetic coil driver for recording data.

Claims 2-5, 7-9, 13-16 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed November 25, 2005 have been fully considered but they are not persuasive. The applicant argues that "Maeda does not disclose a laser condition varying unit for altering at least one of a pulse timing and a pulse width of a laser pulse based on a clock, ... [and further] that Maeda does not disclose a laser driver circuit for altering at least one of a pulse timing and a pulse width of a laser pulse based on a clock..." The examiner respectfully disagrees. As explained in detail in the rejection above, Maeda et al. discloses that "digital information entered through the input terminal 7 is synchronized to a clock from a clock generating circuit 13... [A] frequency of the clock supplied from the clock generating circuit 13 becomes higher as the relevant position gets closer to the circumferential section of the magneto-optical disk 1, and therefore a frequency for recording becomes higher in a position closer to the circumferential section of the magneto-optical disk 1" (col. 7, lines 15-26). See also, abstract. Therefore, a laser condition varying unit further alters at least one of a pulse timing and a pulse width of the laser pulse based on the clock as claimed.

The applicant further argues that "Yoshimaru does not disclose a laser condition varying unit for altering at least one of a pulse timing and a pulse width of the laser pulse based on the clock... [and further] that Yoshimura does not disclose a control unit for ... altering at least one of a pulse timing and a pulse width of the laser pulse based on the clock...". The examiner respectfully disagrees. As explained in detail in the rejection above, Yoshimaru discloses a clock generating circuit 23 for generating a clock, (e.g., 20 MHz/189), using a value relating to a linear velocity of the optical disk at a position at which the laser pulse is irradiated. A laser condition varying unit 15, 20 alters at least one of the pulse timing and a pulse width of the laser pulse based on the clock as claimed. See col. 3, line 52, through col. 5, line 22.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Paul Huber at telephone number 571-272-7588.

pwh
February 7, 2006

PAUL W. HUBER
PRIMARY EXAMINER